TELEMIC

HouseControl E+

INSTALLATION MANUAL

1.0

HOME ENERGY SAVINGS

REMOTE CAMERA

INTERNET USER INTERFACE

TEMPERATURE ALARMS

BURGLARY PROTECTION

DOOR SECURITY

FIRE SAFETY

SECURITY KEYPAD WITH PROXIMITY TAGS

PREVENTION OF WATER DAMAGES

WIRELESS EXTENSIONS

Installation Certificate

This certificate states that Telemic Oy's HouseControl remote control and alarm system has been installed in the real estate mentioned below.

Property holder / holder of real estate	
Location of the real estate	
Real estate	
Alarm system type	
Central unit's serial number	
SIM card phone number	
Smoke detector model	
Motion sensor model	
Magnetic door switches	
Remote camera	
Security keypad	
Siren	
Installed by	

We assure

- that the alarm system was installed in accordance with the manufacturer's instructions.
- that the alarm system has been tested and it works as documented.
- that the end user has received guidance as to how to use the alarm system.

Location and date _____

Installed by / Signature

_____

This form needs to be filled and signed in order to apply for possible refund from your insurance company and before contacting product support.

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1. INTRODUCTION

This manual describes the installation of HouseControl remote control and alarm system. The instructions in this manual can be applied to many kinds of houses.

It is important that you plan carefully how you are going to install HouseControl. For example, to achieve finished look make sure the cables run inside the walls and other structures. This requires that you have a plan for where you are going to install smoke detectors, motion sensors, and other accessories as you are building your house.

You can connect up to three temperature sensors, a siren, a magnetic door switch, a moisture sensor, a smoke detector, a motion sensor, a security keypad, a remote camera and a control panel to the central unit. You can connect several motion sensors, magnetic door switches, smoke detectors and moisture sensors to one input. Always connect the sensors according to the separate wiring diagram.

The central unit contains two relay outputs 230VAC/AC (6A and 10A). The 10A relay can be controlled thermostatically.

2. PREPARATION

You need a GSM subscription and a SIM card from a telecommunications operator for testing and using HouseControl. You must disable the PIN code request from the SIM card before inserting the card in the central unit. It is recommended that testing is conducted with the same SIM card that will remain in the central unit after the installation is complete.

If a camera is installed, you should make sure that MMS messages (messages that contain pictures) can be sent from the subscription. Some operators require that the service is activated before it can be used. You can activate MMS by inserting the SIM card in an MMS compatible phone and sending an activation message to your operator. Please consult your telecommunications operator for more information. Before inserting the SIM card in HouseControl make sure that you indeed can send MMS messages with that SIM card by testing it with your mobile phone.

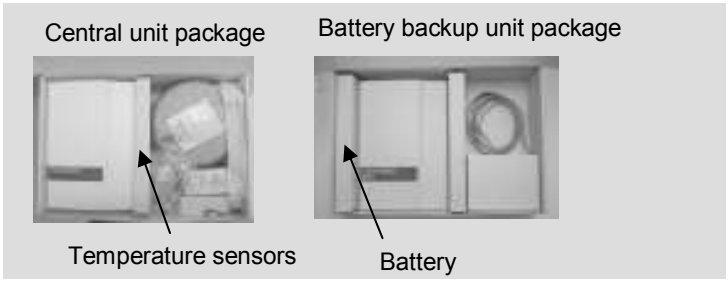
Use an unlisted phone number in your HouseControl so that it is not publicly available. However, make sure that the HouseControl's phone number is displayed on the screen of your mobile phone when it calls you (i.e. HouseControl's phone number is sent with the call and is not hidden).

2.1 Required Tools

You will need the following tools:

- Side cutters for cables
- Pointed pliers to help you connect wires to connectors
- Electrical drill and drill bits of various sizes
- Screwdriver

2.2 Package Contents



Check the package contents:

- Central unit
- Moisture sensor
- Magnetic door switch (flush mounting)
- 2 temperature sensors
- Siren
- Motion sensor
- Smoke detector
- Battery backup unit

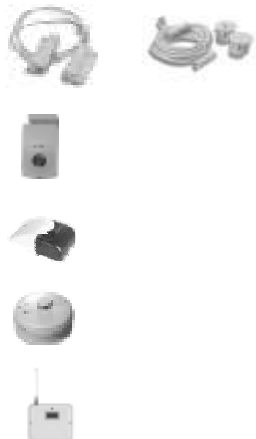
And:

- Materials needed in installation
- Installation cable
- User's Manual and Installation Manual

2.3 Accessories

The following accessories are available to HouseControl:

- Magnetic door switch (flush and surface mounting)
- Security keypad with proximity tags
- Remote camera
- Moisture sensor
- Siren with light
- Temperature sensor
- Heat detector
- Carbon monoxide detector
- HCE Wireless extension: detectors and remote controls



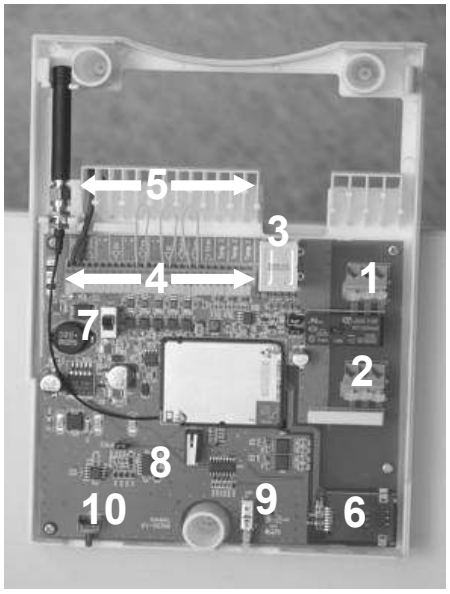
3. INSTALLATION

3.1 Opening Unit's Cover

There is a small curved indentation on the top of the central unit. Place your hand into the indentation and carefully detach the cover.

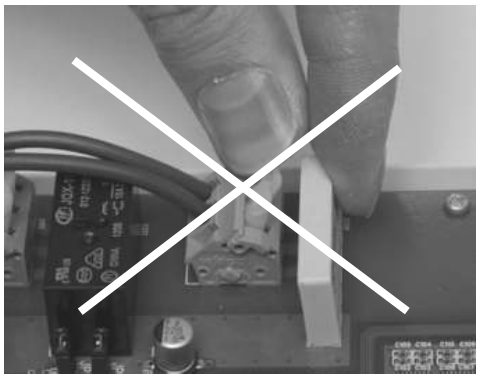
The cover must be fastened with screws after installation is complete. The screws are included in the package.

3.2 HCE+ from Inside

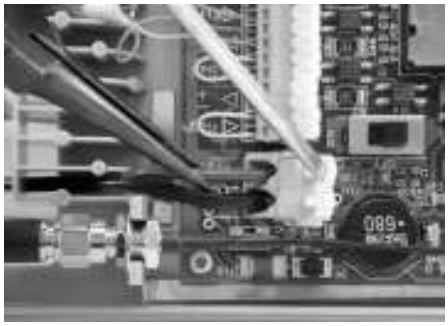


1. Heater/Aircon relay (see 3.3)
2. Ext relay (see 3.3)
3. Camera and data connector
4. Inputs for temperature sensors, siren, magnetic door switches, moisture sensor, motion sensor, smoke detector, security keypad and 12V power supply (see 3.3)
5. Cable holder
6. SIM card slot
7. Power switch
8. Tamper switch
9. Manual heating switch (red light is on when manual control is used)
10. Door security on/off switch

3.3 Connectors

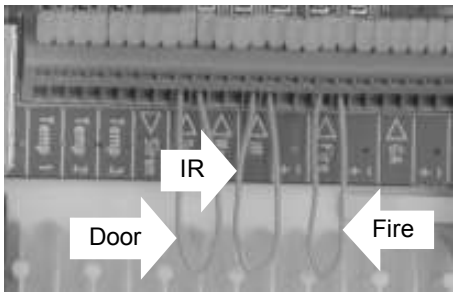


Do not use your fingers when inserting wires into the spring clips – Relays may be damaged if you push your fingers against them.



Always use a screwdriver and pointed pliers when inserting wires into the connectors. Push spring clips almost directly from the top with a screwdriver.

Before connecting individual wires to the connectors, peel off about 10 cm of the insulation from the cable. Join the uninsulated conductor to earth by using a connector strip (see separate wiring diagram).



The DOOR, IR (motion sensor) and FIRE (smoke detector) inputs have been short circuited with yellow wires.

This prevents alarms from the inputs that do not have sensors connected to them. When connecting a sensor to an input, remove the corresponding yellow wire.

NOTE. Moisture sensor and security keypad are normally open. Do not short circuit them.

3.4 Central Unit

The central unit should be installed in a protected area. No intruder should get to the central unit past the magnetic door switch or without the motion sensor being able to detect the trespasser. You must have an access to the central unit if you intend to use door security at night.

The signal light on the security keypad tells the current operating mode (is monitoring on or off).

Drill holes for the cables on the wall. Leave at least 30 cm of surplus length to the cables to make installation easier. Push surplus cable back inside the wall after you have connected the wires.

Fasten the central unit on the wall with three screws included in the package.

Alternatively, you can run the cables on the wall surface if you wish to avoid drilling holes. If this is the case, open the indentations on the side of the unit for the cables.

Note: Metal casing (so called Faraday cage) weakens the GSM signal. If the device is installed in a metal case, for example an electrical cabinet, you need to place antenna outside the cabinet (external antenna is available as an accessory).

Note: Some other materials also weaken the GSM signal, especially walls that contain metal framing.

3.5 Remote Camera

You can connect Telemic Oy's remote camera to your HCE+.

When choosing a location for the remote camera it is important to respect privacy and know the law in your country. HouseControl can take a picture automatically when motion sensor detects movement.

Mount the camera. Remove the lens cover.

Coil the surplus length of the cable and hide it.

Connect the remote camera to the central unit as depicted in the separate wiring diagram (lower miniDin connector).

You can adjust the direction of the camera by loosening the screw at the bottom.

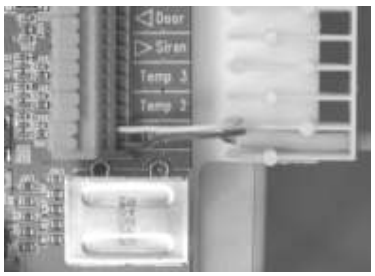
3.6 Indoor Temperature Sensor

Place the indoor temperature sensor in the living area in an unnoticeable place. Run the cable behind a baseboard to the HCE+.

Note: Do not leave sensors uninstalled. Shorten cables as needed and install temp1 and temp2 sensors inside HCE+ so that there will be no unnecessary temperature alarms.

Place the temperature sensor in the area where you want to measure temperature.

Hide the surplus of the cable.



Connect the temperature sensor to the Temp1 connector as depicted in the separate wiring diagram.

3.7 Outdoor Temperature Sensor

Remember not to place the temperature sensor in direct sunlight.

Put the temperature sensor outside.

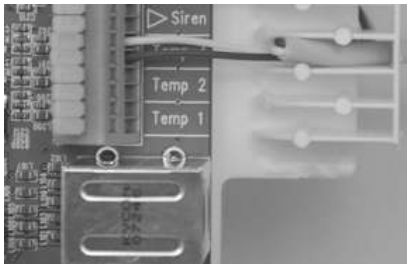
Hide the surplus of the cable.

Connect the temperature sensor to the Temp2 connector as depicted in the separate wiring diagram.

3.8 Water Temperature Sensor

Slide the temperature sensor in the casing pipe.

Hide the surplus of the cable.



Connect the temperature sensor to the Temp3 connector as depicted in the separate wiring diagram.

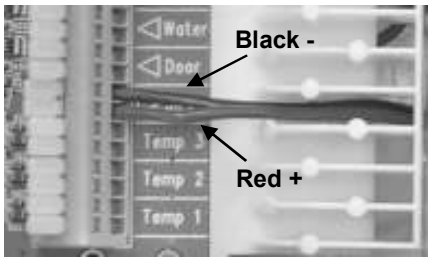
This sensor can be used for measuring other temperatures besides water, and it can be named to describe its usage better (see User's Manual).

3.9 Siren

Install the siren in a such a place where it can be heard.

Note: If a different siren (for example an outdoor siren with bigger current consumption) is connected to HCE+, you must use a 12V output relay in between. The current consumption of the coil of the relay must not exceed 300mA (12VDC).

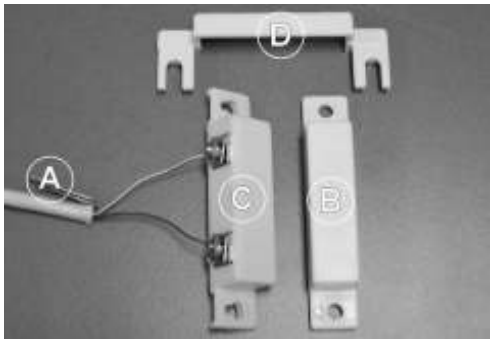
Fasten the siren with the screws included in the package.



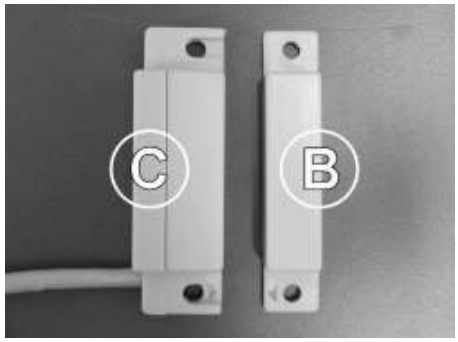
Connect the siren to the "Siren" connector as depicted in the separate wiring diagram. Notice polarity (black and red wires).

3.10 Magnetic Door Switches

Connect magnetic door switches in series as shown in the separate wiring diagram. Install them in doors and windows that are most usually left open by accident. This prevents burglars from getting in, but also prevents the house from cooling down in the winter because of an open back door.

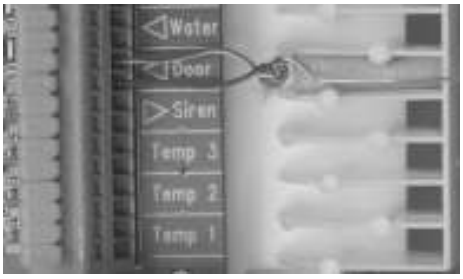


Connect the installation cable to the switch as depicted in the wiring diagram. Use cover (D) to protect the screw connectors.

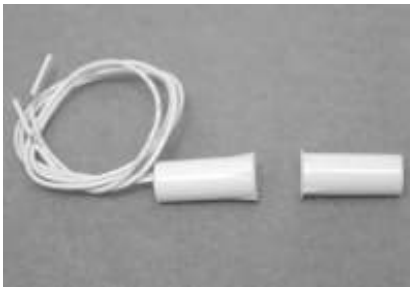


Install the parts C and B so that they are no more than 5mm apart from each other. Attach part C to a wall/door frame and part B to the door by using screws and two-sided tape.

Hide the excess of the cable.



Connect the installation cable to the Door connector as depicted in the separate wiring diagram.



Drill a hole in the door frame for flush mounting. Push the switch in the hole with your hands. **Note! Do not use hammer.**

Alarm is not activated immediately when the door is opened. The user must have some time to cancel the alarm from the security keypad when coming in (see User's Manual).

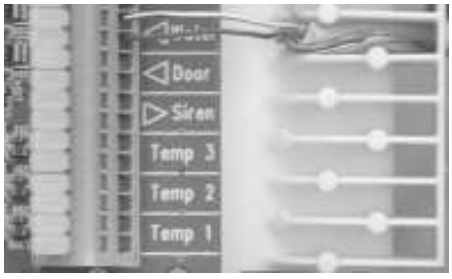
Note: Install the switch on the opposite side of the hinges.

3.11 Moisture Sensor

Moisture sensors are available as accessories. Install the sensor under a bypass manifold or a dishwasher. If there is a leakage in the water pipe, water will flow in the casing pipe and come out near the bypass manifold and eventually end up in the floor drain. By placing the moisture sensor under the bypass manifold you can detect leakages easily.

Tape the sensor to the floor.

Hide the excess of the cable.



Connect the moisture sensor to the Water connector as depicted in the separate wiring diagram.

3.12 Motion Sensor

Motion sensor should be installed in the living area where it has the best coverage for sensing movement.

Do not install motion sensor in entrance hall if security keypad is in the same space. The user must be able to come in and switch monitoring off from the security keypad without activating the motion sensor.

Detach the cover of the motion sensor by opening the screw at the bottom.

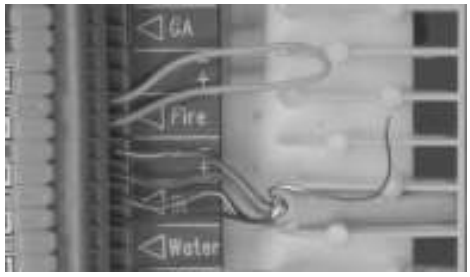
Connect the motion sensor to the central unit as depicted in the separate wiring diagram. It is recommended that you make the following adjustments to the motion sensor:

- Turn the red screw counter clockwise to 11 o'clock.
- Change the Pet jumper to 25kg.
- Change the Pulse jumper to place 2.

The motion sensor works best with these settings in domestic environment. By turning the red screw clockwise you can increase sensitivity.

Attach the motion sensor to a wall near ceiling.

Hide the surplus of the cable.



Connect the motion sensor to the IR connector as depicted in the separate wiring diagram.

3.13 Smoke Detector

The smoke detector should be attached to the ceiling. Do not place the detector in a corner or cranny because then it will not detect smoke so easily.

Note: You can connect up to 8 smoke detectors in the fire connector in HCE+.

Open the cover cerefully by using a screwdriver.

Connect the installation cable to the smoke detector as depicted in the separate wiring diagram.

Place a battery in the detector. The battery is used only when power supply from HCE+ is cut off for some reason.

Hide the surplus of the cable.

Connect the smoke detector to the Fire connector as depicted in the separate wiring diagram.

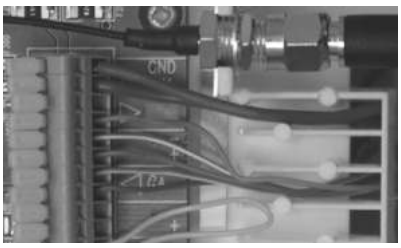
3.14 Security Keypad

A security keypad is available as an accessory. Install the security keypad in the entrance hall in a place where it can be used easily. The operating mode (is monitoring on or off?) is displayed by the signal light on the security keypad. Make sure the signal light is not visible from outside.

Connect the RJ connector to the security keypad.

Attach the security keypad to a wall in entrance hall.

Hide the excess of the cable.



Connect the security keypad to the GA and Ind1 connectors as depicted in the separate wiring diagram.

Note! Because the key reader on the security keypad uses radio frequencies, you should avoid placing it near cables or devices that cause electromagnetic fields (contactors).

Security keypad is preprogrammed in such way that nine keys can be used for changing the operating mode (alarm on/off). Installer's key cannot be used for this purpose. Operating mode can also be changed by using a secret code. The codes are attached to the installer's key.

To program security keypad (for example, if you want to change individual codes), you need installer's key and installer's code 1234. **Do not change the installer code because if installer's proximity key is lost, you cannot program the security keypad anymore**. Keep the installer's key in a safe place away from the sun light.

To change monitoring on, bring one of the proximity keys in front of the keypad momentarily, OK light will flash. The round LED light starts blinking and when exit delay is over it stops blinking and stays lighted (monitoring is on). If you want to cancel operating mode change during the exit delay, you can use your key as described. The OK light flashes and the round LED light goes off. Tip! You can silence the siren by using a proximity key without changing the operating mode.

To change operating mode with code:

1. Press CLR
2. Key in the four digit user code
3. Press EN

To change user code:

Switch to programming mode in security keyboard:

1. Press FUN, 2 and EN. OK and ⚠ start blinking.
2. Bring installer's key near the keypad. You will hear a short signal tone and only OK blinks.
3. Key in installer code 1234 and press EN. You will hear a long signal tone and ☼ starts blinking.

To program a new user code:

4. Press FUN, 4, 6, and EN. OK starts blinking.
5. Press 0, 1 and EN. OK continues blinking.
6. Key in a new 4 digit code. Press EN . OK continues blinking.
7. Repeat the new 4 digit code you just entered. Press EN. OK is on for one second after which you will hear a long signal tone. Note! Setting the user code to 0000 removes the user code altogether.

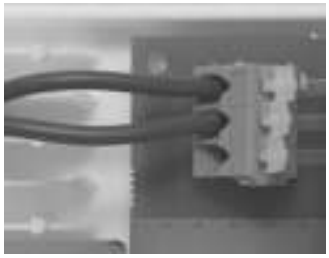
Exit programming mode:

8. Press FUN, 2 and EN. The security keypad returns to normal user mode.

Note: Go through the aforementioned steps in one succession without interruption – otherwise the security keypad will return to user mode automatically after awhile and the user code is not changed.

3.15 Heater Relay

You can use HCE+ for controlling heating in your house. You can control an individual heater or an entire heating system with HCE+.



Connect the heater to the central unit (HEATER relay).

Note: You cannot control heating from your mobile phone if manual control is turned on.

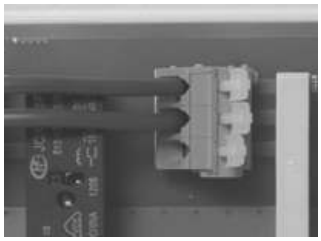
Important: Make sure that max load 230VAC/10A is not exceeded under any circumstances.

Important: When relay is used to steer inductive load (for example, another contactor), connect RC filter or EMC suppression component in parallel to load to stop voltage spikes when contactor releases. Voltage spike may break the relay.

3.16 EXT Relay

There is a second relay in HCE+ (EXT) and its use can be selected freely. You can also set this relay to auto mode when it follows device's operating mode. If monitoring is on (ALARM ON), the relay pulls and when monitoring is off (ALARM OFF), the relay releases. This allows you to easily switch off electricity and close water pipe when leaving home.

EXT relay can also be used as a LEAKGUARD. When moisture sensor detects moisture, the EXT relay pulls. The relay releases when leakguard is disabled or reset. When leakguard is in use, you cannot set the relay on or off with EXT command.

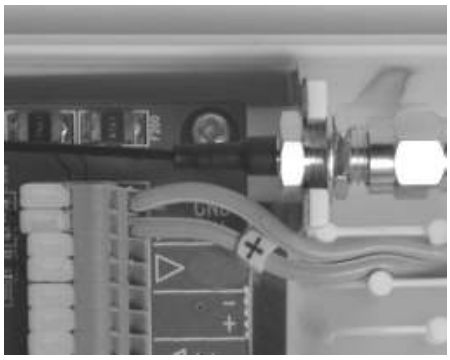


Connect the device to the EXT relay. You can use the relay, for example, for controlling magnetic valve in water pipe and prevent water damages.

Important: Make sure that max load 230VAC/6A is not exceeded under any circumstances.

Important: When relay is used to steer inductive load (for example, another contactor), connect RC filter or EMC suppression component in parallel to load to stop voltage spikes when contactor releases. Voltage spike may break the relay.

3.17 Power Supply and Battery Backup Unit

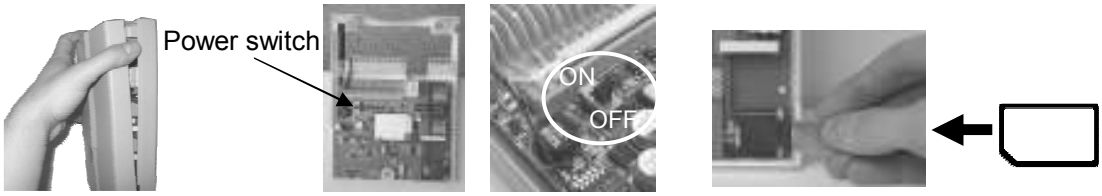


1. Connect the cable from the battery backup unit to the +12V and GND connectors as depicted in the separate wiring diagram.
2. Connect the battery.
3. Attach the battery to the casing with two-sided tape.
4. Connect the mains cable.

Make sure the HCE+ works even if you detach the mains cable from the wall outlet. This proves that the battery has been connected properly and the 4A fuse is ok.

3.18 SIM Card

First, disable the PIN code request from the SIM card. Make sure the power is switched off from the HCE+ (power switch is OFF, see picture below) and insert the SIM card in the SIM card slot in the bottom right corner of the central unit. Switch power ON and leave the cover open. Wait 30 seconds for the HCE+ to start up.



Picture 1. Opening the cover, location of the power switch, and the SIM card slot.

Wait 30 seconds after inserting the SIM card and powering up the unit. HCE+ goes into programming mode and the unit's status light starts blinking. If the light does not blink, make sure *the PIN code*

request is disabled from the SIM card, the GSM connection has been opened by your operator, the GSM signal strength is sufficient in the area, and that the SIM card was placed properly in the SIM card slot (you will hear a click when it is locked).

You can ask the GSM signal strength from the device when SIM card is in the device and power is switched on (green lights blink) and cover is open (the device is in programming mode). Send ? (message containing only a question mark) to your HCE+. The signal strength should be at least 10 for text messages and 15 for multimedia messages, although 20 or more would be better. Use an external antenna or install the central unit in a different place if needed.

3.19 Wireless extension

You can use wireless components with HCE+ if you have an extension module (available as an accessory). The extension comes with its own installation manual. To start using wireless extension, send the following message to HCE+ (no wireless smoke detector):

#WIRELESS BASIC

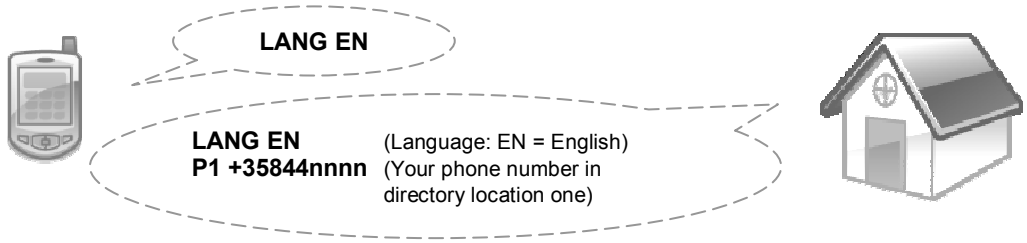
If you have a wireless smoke detector in the system, use command:

#WIRELESS FULL

4. SETUP AND TESTING

Now it is time for post-installation setup and testing. See the Trouble Shooting chapter in the User's Manual if you encounter any problems.

1. Make sure there is a SIM card in the central unit. Switch power ON and leave the cover open. Wait 30 seconds for the HCE+ to start up. The unit's status light starts blinking as it goes into programming mode. If the light does not blink, make sure *the PIN code request is disabled from the SIM card, the GSM connection has been opened by your operator, the GSM signal strength is sufficient in the area, and that the SIM card was placed properly in the SIM card slot*. Leave the cover open.
2. Make a test call to the unit to make sure it is connected to the GSM network. If the call is connected, GSM connection is open and everything is ok. HCE+ answers with three beeps and disconnects the call.
3. Select language with command **LANG xx** where xx is the language of your choice (see list of available languages from the User's Manual). This command initializes the unit and sets your phone number in the first location of the phone directory. The HCE+ can be used only from this phone number at this point. More users can be added later (see User's Manual).



4. Put the cover back on and fasten it with screws. Start testing.

4.1 Testing

You can test the system by going through the following steps after you have selected language and put the cover back on the central unit.

You can change the unit's operating mode (is monitoring on or off?) by using text message commands or by using the security keypad and proximity key.

The operating mode does not change immediately if you use security keypad. There is a 30 second delay when switching monitoring off and a 45 second delay when switching monitoring on. There are no delays if you use text messages **ALARM ON** and **ALARM OFF** except the time it takes the message to travel in the GSM network.

When testing the system you can silence the siren by using a proximity key (the operating mode does not change if alarm is active).

1. Magnetic door switches. Send **ALARM ON** message to the unit and trigger an alarm by opening a door or a window with magnetic door switches. Wait until you receive an alarm text message. Send **ALARM OFF** to the unit to clear alarms.
2. Moisture sensor. Drop some water on the sensor so that it alarms. Wait until you receive an alarm message. Send **ALARM OFF** to the unit to clear alarms.
3. Motion sensor. Send **ALARM ON** message to the unit and go inside the house so that the motion sensor detects you. Wait until you receive an alarm message. Send **ALARM OFF** to the unit to clear alarms.
4. Smoke detector. Test the detector as instructed by the smoke detector manufacturer. The alarm must be at least 10 seconds long for HCE+ to react to it. Wait until you receive an alarm message. Send **ALARM OFF** to the unit to clear alarms. Notice that both sirens, the siren in the smoke detector and the siren connected to HCE+, must go on when there is an alarm. Exception: if interconnect feature is enabled in the smoke detectors, every smoke detector siren should alarm.
5. Carbon monoxide detector. Test the detector as instructed by the manufacturer. Wait until you receive an alarm message. Send **ALARM OFF** to the unit to clear alarms.
6. Enabling remote camera. Send **CAMERA ON** message to the unit, and then ask report from the unit with command **?**. Check that the camera is enabled (CAMERA: ON) from the report.
7. Taking pictures with remote camera. You must tell HouseControl the multimedia settings (MMS) of the particular GSM subscription before it can send pictures. In addition, some operators may require an explicit activation of these settings. If this is the case, place the SIM card in an MMS capable phone and consult your operator for further instructions. You will usually find the multimedia settings and activation instructions from telecommunications operators' web pages.

Command	Explanation	Example command
MMSAPN	Access point name	**MMSAPN xxx.xxx.xx**
MMSURL	URL address	**MMSURL http://xxx.xx.xx**
MMSIP	Gateway IP address	**MMSIP xx.xx.xx.xx**
MMSPORT	Port number	**MMSPORT xxxx**
MMSUSERNAME	User name	**MMSUSERNAME**
MMSPASSWORD	Password	**MMSPASSWORD**

   You can take a picture with command **PICTURE** (see User's Manual) if the multimedia settings are ok.
8. Heater relay. Send **HEATER ON** and **HEATER OFF** messages to the unit and make sure the heater starts and stops.
9. Ext relay. Send **EXT ON** and **EXT EI** messages to the unit and make sure the controlled device works as expected.
10. Send **ALARM ON** and **ALARM OFF** commands to the unit and make sure that the status light on the security keypad displays the unit's operating mode correctly.
11. Unplug the battery backup unit and wait until you receive an alarm message. It may take 15 to 30 minutes for the alarm to activate. Plug the battery backup unit back in after you received the alarm message and wait until you receive Power OK message.

Notes

Notes

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